

**RESPONSES TO COMMENTS FROM U.S. EPA HEADQUARTERS
ON THE POLYCHLORINATED BIPHENYL (PCB) NOTIFICATION PLAN APPLICATION
(Memorandum dated November 16, 2009)
Former Pechiney Cast Plate, Inc. Facility
3200 Fruitland Avenue
Vernon, California**

COMMENT	RESPONSE
<p>1. Proposed Remediation Goals:</p> <p>This assessment is concerned with PCB-contaminated soil and concrete. A proposal for remediation is to leave some of this material exposed at the surface. The Code of Federal Regulations (CFR) cleanup levels for PCB-contaminated wastes like this are based on relative use, categorized as low or high occupancy.</p> <p>According to the CFR, low occupancy is defined as any area where PCB remediation waste has been disposed of on-site and where occupancy for any individual not wearing dermal and respiratory protection for a calendar year is less than 335 hours (an average of 6.7 hours per week). Under the same conditions, high occupancy is defined as 335 hours or more (an average of 6.7 hours or more per week) for bulk PCB remediation waste. According to Section 4.2.3.3., (page 23), the risk based screening levels (RBSLs) derived for the site were calculated as follows,</p> <p style="padding-left: 40px;">“The exposure parameters used to derive the RBSLs are based on reasonable maximum exposure (RME), which is defined by U.S. EPA as the highest exposure that could reasonably be expected to occur for a given exposure pathway at a site (U.S. EPA, 1989). The exposure parameters associated with a RME scenario are therefore highly conservative. For example, it was assumed that an outdoor commercial/industrial worker is present on-site for 250 days/year for 25 years.”</p> <p>Use of RME assumptions therefore qualifies as high occupancy use under the CFR. In other words, the assessment used site-specific cleanup levels based on assumptions that would qualify as high occupancy. For PCB-contaminated soil left exposed at the surface, the high-occupancy cleanup goals listed in the CFR are < 1 ppm PCB without further restrictions [40 CFR 761.61(a)(4)(i)(A)]. Anything greater than 1 ppm needs to be covered with a cap.</p> <p>The site-specific cleanup levels for contaminated soil and concrete that can be placed anywhere onsite without restrictions is 5.3 ppm (Section 5.2, page 28, first and second bullets). Furthermore, wastes with this level of contamination are incongruously contrasted to the less restrictive, low occupancy levels listed in the CFR. Section 5.2 (page 28, top of page) states, “[i.e., less than 50 mg/kg as defined in 40 CFR 761.61(a)(4)(i)(A)].”</p> <p>The comparison between CFR standards and site specific remediation goals should be made relative to CFR high-occupancy levels. More importantly, justification needs to be presented for why site-specific levels are less protective than applicable standards listed in the CFR.</p>	<p>As described in Amendment 1 to the PCB Notification Plan Application (specifically, the response to Question 10 of the “Second Set of Questions [from an email dated 1/27/10]”), the exposure scenarios used in Sections 4.0 to 6.0 of the Application are consistent with the exposure scenarios assumed for high occupancy work areas as defined under Section 761.3. The worker scenarios evaluated are more protective than the minimum standards of 840 hours per calendar year for non-porous surfaces and 335 hours per calendar year for bulk PCB remediation waste.</p> <p>The site-specific cleanup level of 5.3 ppm was proposed as a risk-based disposal alternative to the self-implementing cleanup levels outlined in 40 CFR 761.61(a)(4)(i)(A). In addition, AMEC proposed placing a layer (0.5 to 1 foot thick) composed of crushed concrete containing less than 1.0 ppm of PCBs in areas where PCBs are left in place at concentrations above 1 ppm.</p>

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<p>2. Site Sampling:</p> <p>As stated in Section 2.4.3 (page 13),</p> <p>“The Geomatrix soil sample locations were selected based on the highest likelihood of impact from former equipment and/or operations and as indicated by previous Alcoa sampling results...”</p> <p>Although the authors state, (Section 2.3.1, page 9),</p> <p>“These data provided sufficient information for characterization and delineation of the PCB-impacted concrete.”</p> <p>there are still large expanses of concrete where samples were not collected. For concrete having PCB concentrations below the calculated risk based screening limits, the proposed remedy is to break it up and use for on-site fill. Areas of concrete that have PCB concentrations above the RBSL will be disposed off-site. At issue is the apparent assumption that areas of concrete not associated with former PCB related activities are assumed to have PCB concentrations less than the calculated RBSLs and therefore can be broken up and re-used as on-site fill. Considering the samples collected, statistics are not presented for the false negative rate. Consequently, it is not possible to determine if the re-use of areas of concrete not sampled will results in PCB concentrations in crushed concrete fill above the calculated RBSLs.</p> <p>There are two likely resolutions to the problem. First, a uniform grid of fixed dimensions can be laid out over all the concrete foundations and pads. Samples can then be collected from grids for which there is no sample data currently available. As an alternative, the current samples can be considered adequate and a confirmation sampling plan be developed to collect samples from areas where the crushed concrete is used on-site for fill. As long as the concrete fill confirmation samples are below the RBSLs no further actions need to be taken. However, if confirmation samples on the crushed concrete fill show PCB concentrations above the calculated RBSLs then the fill should be removed for off-site disposal.</p>	<p>As described in Amendment 1 to the PCB Notification Plan Application (specifically, the response to Question 3 of the “Second Set of Questions [from an email dated 1/27/10]”), additional concrete testing has been proposed to further support the reuse of concrete containing PCBs below the remediation goal of 5.3 mg/kg. The proposed additional concrete sampling plan is provided in detail in Amendment 3 to the PCB Notification Plan Application.</p>
<p>3. Form of PCBs Measured:</p> <p>The most likely sources of the PCBs at the Site are PCB-containing fluids associated with former hydraulic and extrusion machinery and aluminum cast plate manufacturing activities. Because operations at the site date back to the late 1930’s, weathering of PCBs must have occurred over the last eight decades. As discussed in DeGrandchamp and Barron (2005), the toxicity of a particular PCB mixture, whether it is the original commercial Aroclor or weathered environmental mixture, is dependent on the type and quantity of individual PCB congeners present. It is the three-dimensional position of chlorines and the conformation of the biphenyl rings that ultimately govern the toxicity of each of the PCB congeners.</p> <p>Because the weathering process results in degradation of less-chlorinated congeners, weathering yields a higher proportion of the more highly chlorinated congeners. This recalcitrant fraction that remains is more toxic and more readily taken up by human and non-human receptors. Thus, it is not possible to assign toxicity values to Aroclors that have undergone weathering. Consequently, risks based strictly on Aroclors will underestimate the bioaccumulation potential and the toxicity of a weathered mixture. In order to evaluate the toxicity and health risks associated with environmental PCB mixtures, the composition and concentration of individual PCB congeners should be considered.</p>	<p>Please refer to Amendment 1 to the PCB Notification Plan Application, specifically the response to Question 3 of the “Additional Questions (1/29/10 Conference Call),” for an explanation of our approach for sampling concrete floor slabs and soil for the presence of individual PCB congeners. The proposed concrete and soil sampling plan for coplanar PCBs is provided in detail in Amendment 2 to the PCB Notification Plan Application.</p>

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<p>4. Protection of the Environment:</p> <p>The CFR requires protection against risk of injury to the environment from mitigation of PCB contamination. This requirement necessitates consideration of whether ecological receptors could be adversely affected by contamination onsite. As stated in Section 1.1 (page 2), however, site conditions are such that an ecological risk assessment is unnecessary; specifically,</p> <p>The present day Site lies within an area zoned as industrial and commercial and covers an area of approximately 26.9 acres. The concrete floor slabs on the Site occupy approximately 600,000 square feet. The remainder of the site is paved with asphalt (Figure 3).</p> <p>With that said, the report makes no mention that the need for an ecological risk assessment was ever considered. Some acknowledgement of the lack of habitat for ecological receptors precluding further assessment should be made.</p>	<p>Please refer to Amendment 1 to the PCB Notification Plan Application, specifically the response to Question 2 of the “First Set of Questions” (from an email dated 1/22/10), for an explanation of why ecological risks were not considered in the Application.</p>